

# Utah Department of Transportation Traffic Management Division

July 2015

Monthly Report



2060 South 2760 West Salt Lake City, Utah 84104 801-887-3710 [www.udottraffic.utah.gov](http://www.udottraffic.utah.gov)



## Mission of the Traffic Management Division

- To Support UDOT and the Department of Public Safety to Achieve Zero Fatalities.
- To Help Provide Reliable and Efficient Travel Throughout Utah.
- To Provide Useful and Timely Real-time Traffic Information.
- To Work Together with Other Government Agencies to Serve the Public.
- To Provide Excellent Customer Service.

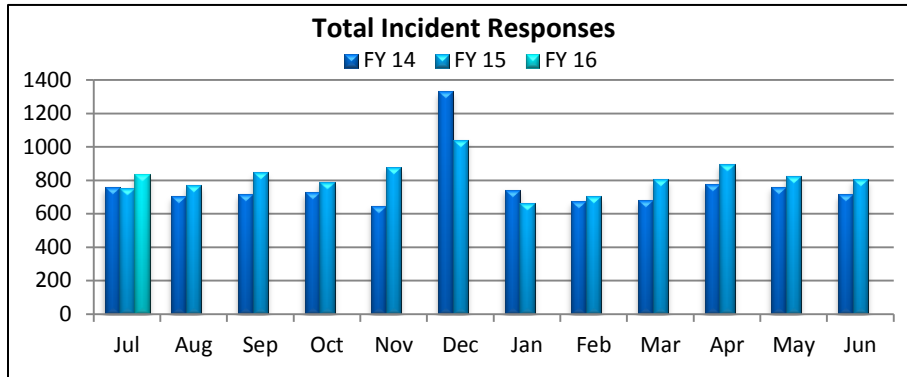
## Field Devices Summary

Freeway PTZ Cameras	371	Freeway VMS	96
Arterial PTZ Cameras	446	Surface Street VMS	49
RWIS & Contracted Weather Cameras	208	Portable TOC VMS	6
Viewable Detection Cameras	67	Legacy Trucks Prohibited VMS	21
Total Cameras	1092	Variable Speed Limit VMS	15
HAR (27 permanent/5 portable)	32	Chain-Up Signs	14
RWIS	98	Total VMS	201
Ramp Meters	63	TMS	544
Express Lane Plazas	63	Traffic Signals	2100

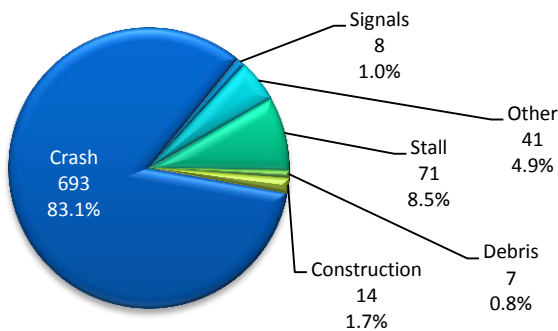
## Operations Summary

VMS Messages Displayed	76,274	IMT Assists	2171
Signal Timing Work Orders	24	Website Visitor Sessions	81,128
Signal Maintenance Work Orders	146	511 Calls	5,221
All New Work Orders	386	Weather Desk Calls	170
Incident Responses by the TOC	834	Ask CommuterLink Questions	56
Incident Duration Average Minutes	58	UDOT Traffic Followers and Re-tweets	308,658

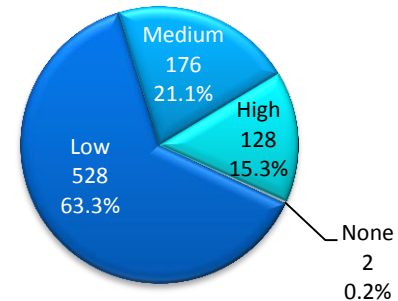
An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Crashes are separated into three subcategories: property damage, personal injury, and fatal. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts. An incident remains active until it has been completely cleared from the roadway.



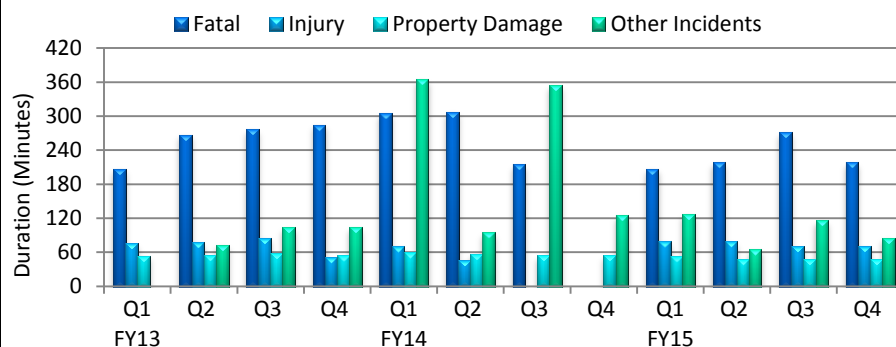
**Incidents By Type for July 2015**



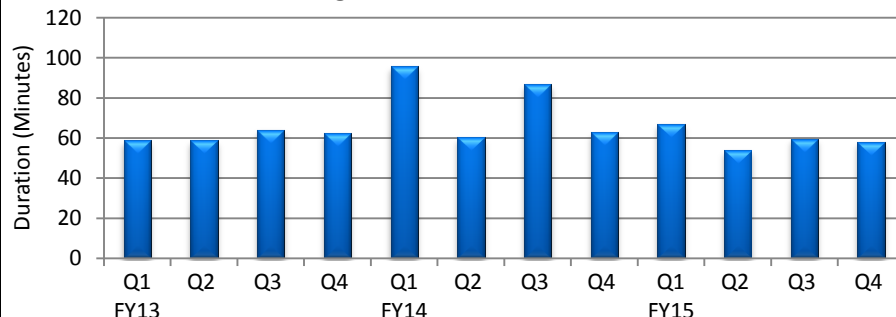
**Incidents by Severity for July 2015**



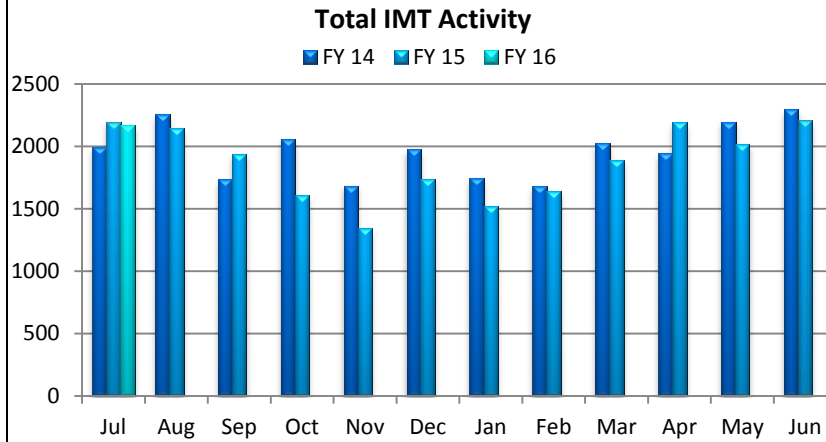
**Average Crash Duration**



**Average Duration of All Incidents**

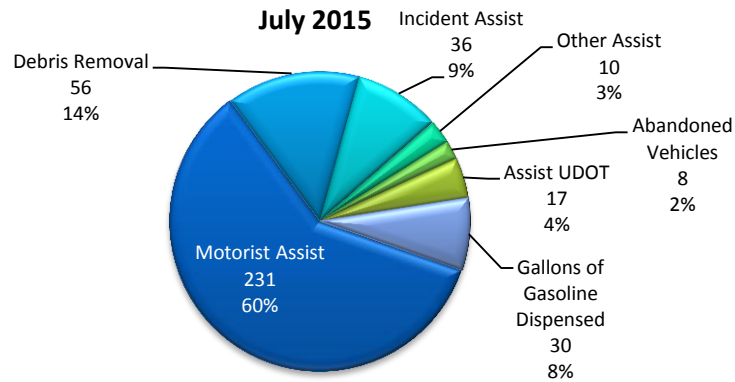


## Incident Management Team (IMT) Activities



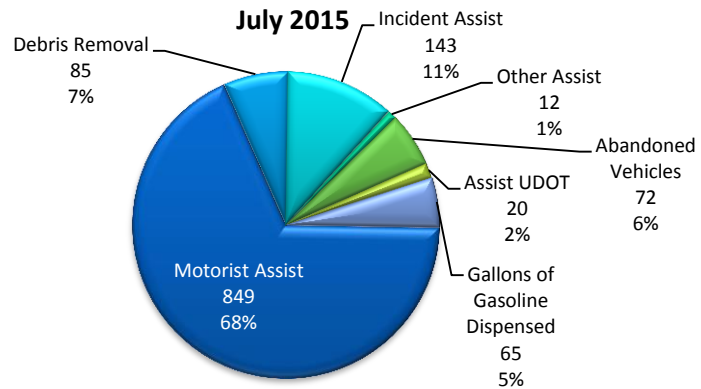
### IMT Activities by Type for UDOT Region 1

July 2015



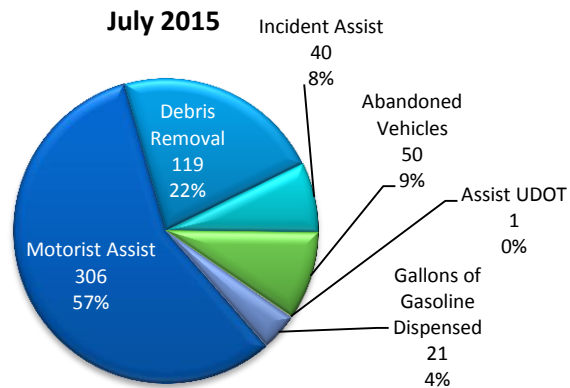
### IMT Activities by Type for UDOT Region 2

July 2015



### IMT Activities by Type for UDOT Region 3

July 2015



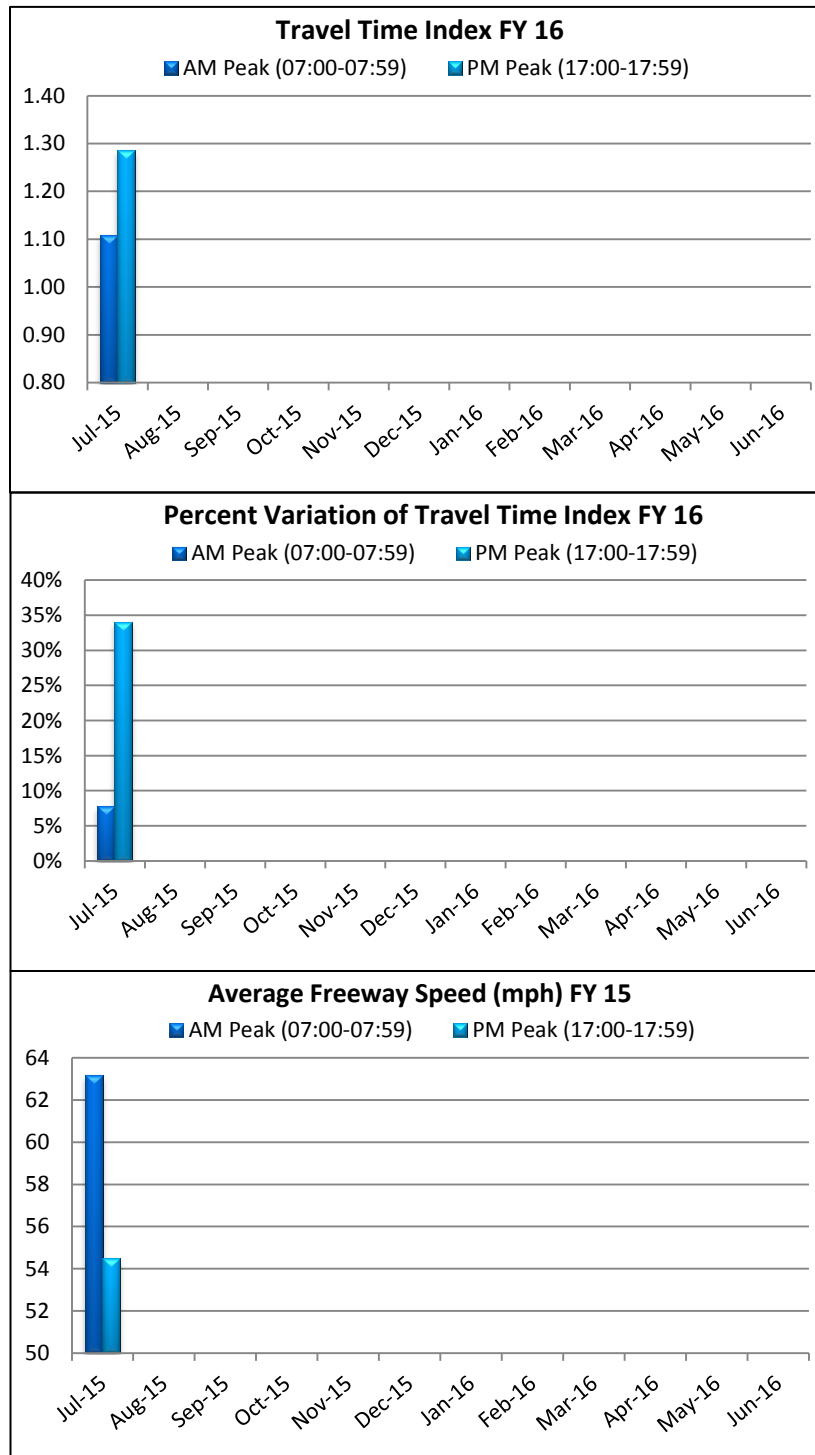
## Freeway Traffic Level of Service

Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Wasatch Front. As more TMS sites are installed throughout the state, they will be included in these performance measures.

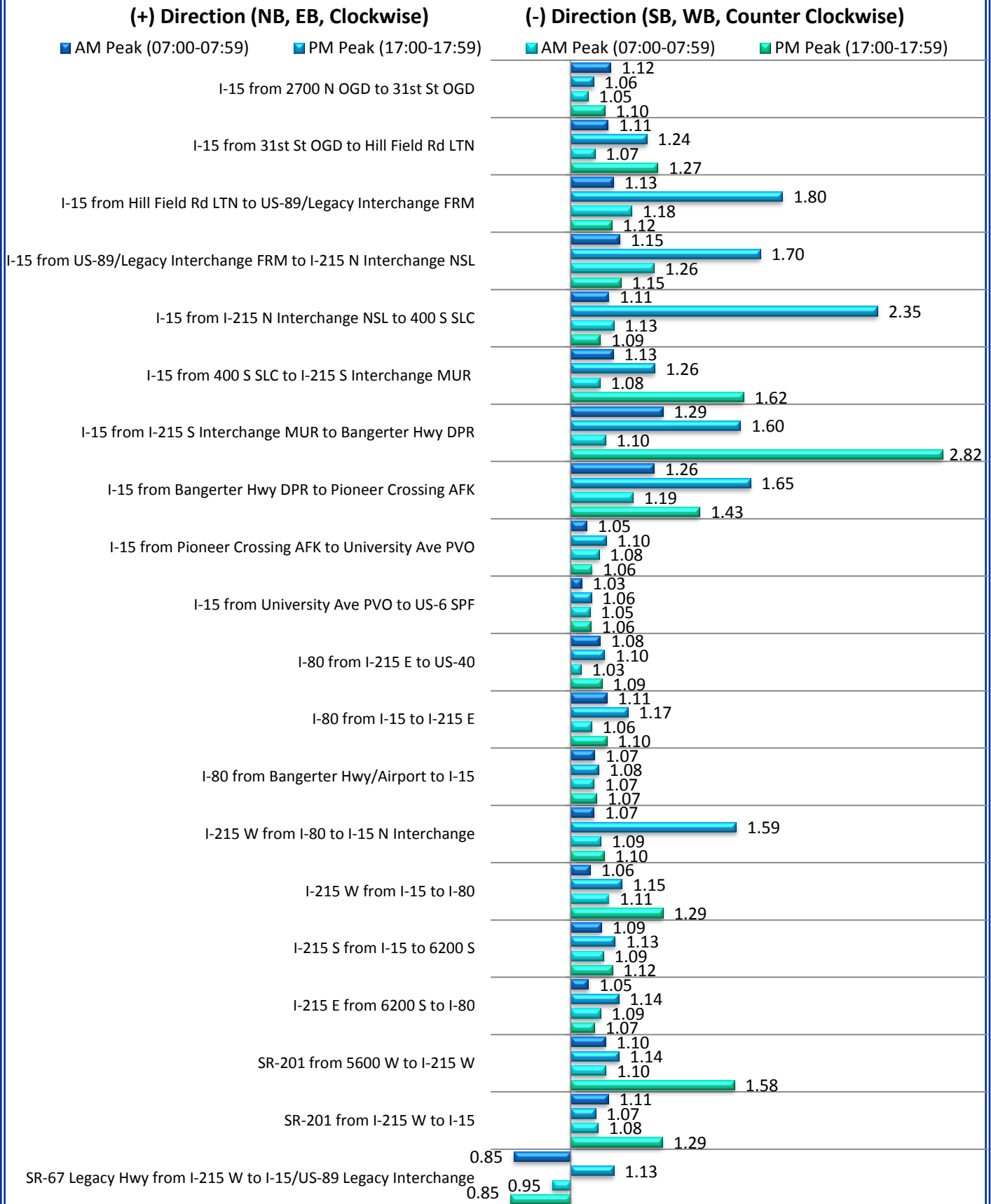
**Travel Time Index:** This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

**Percent Variation of Travel Time Index:** The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

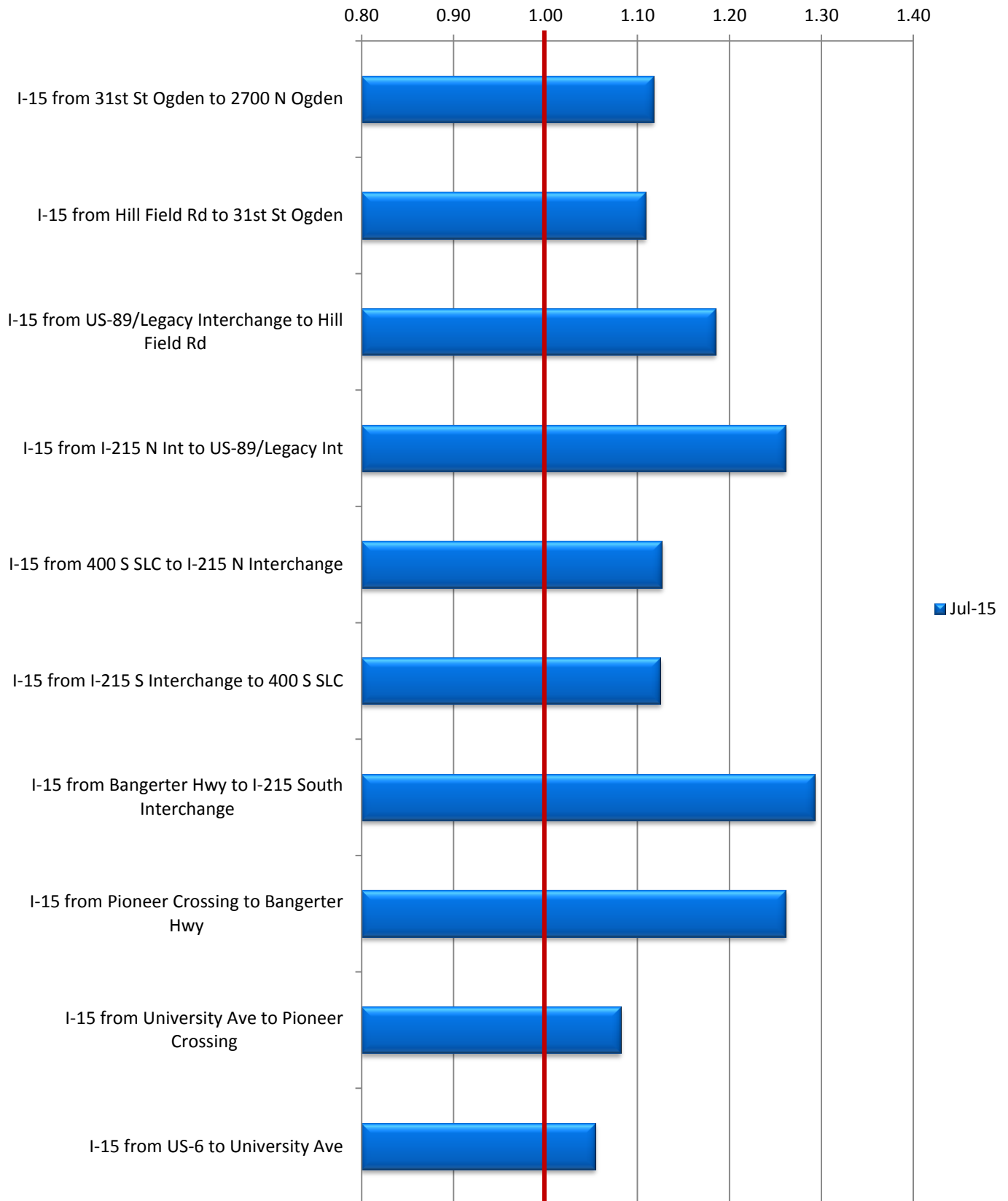
**Average Freeway Speed:** The freeway speed is weighted by volume.



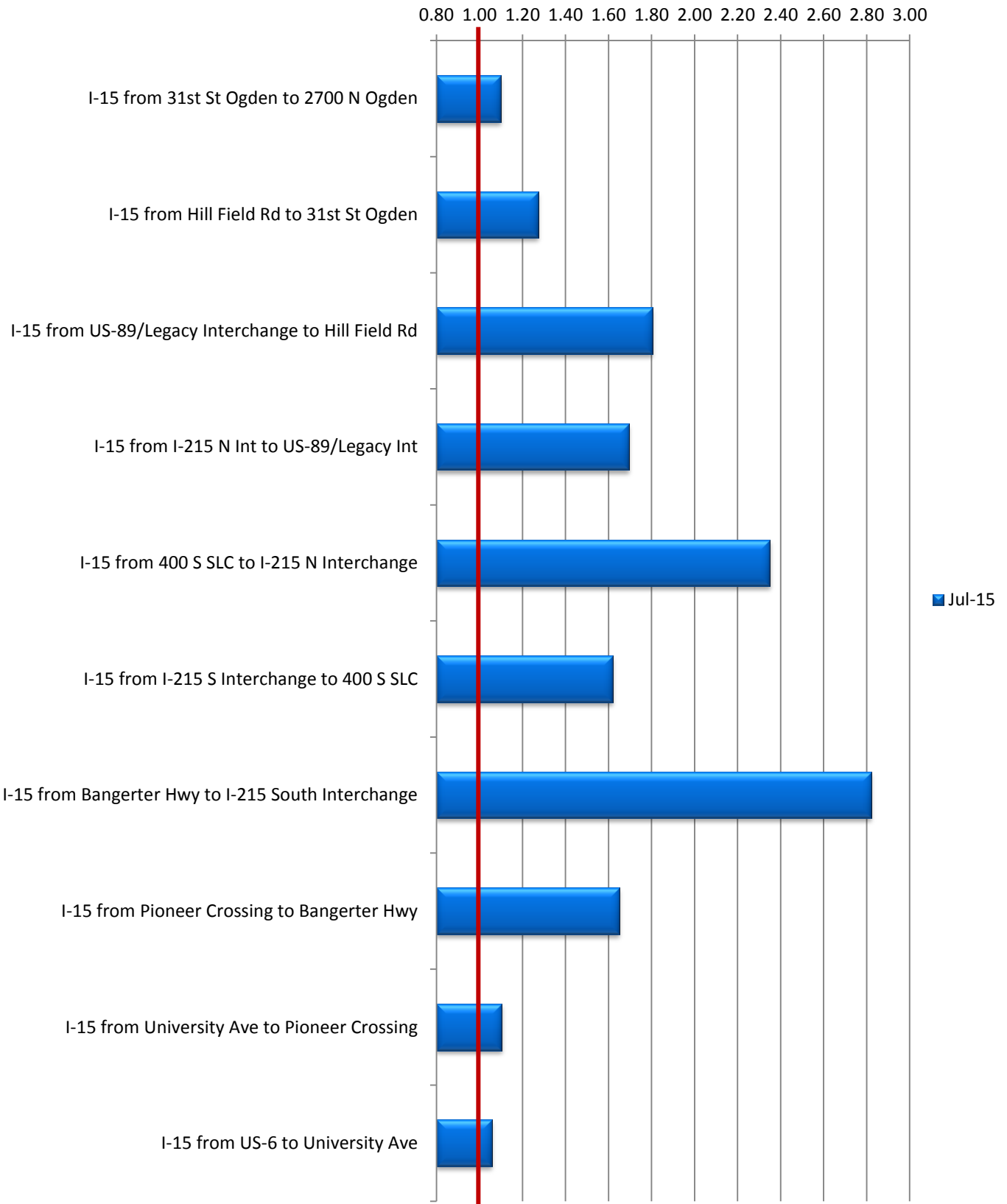
## Peak Travel Time Index by Segment for July 2015



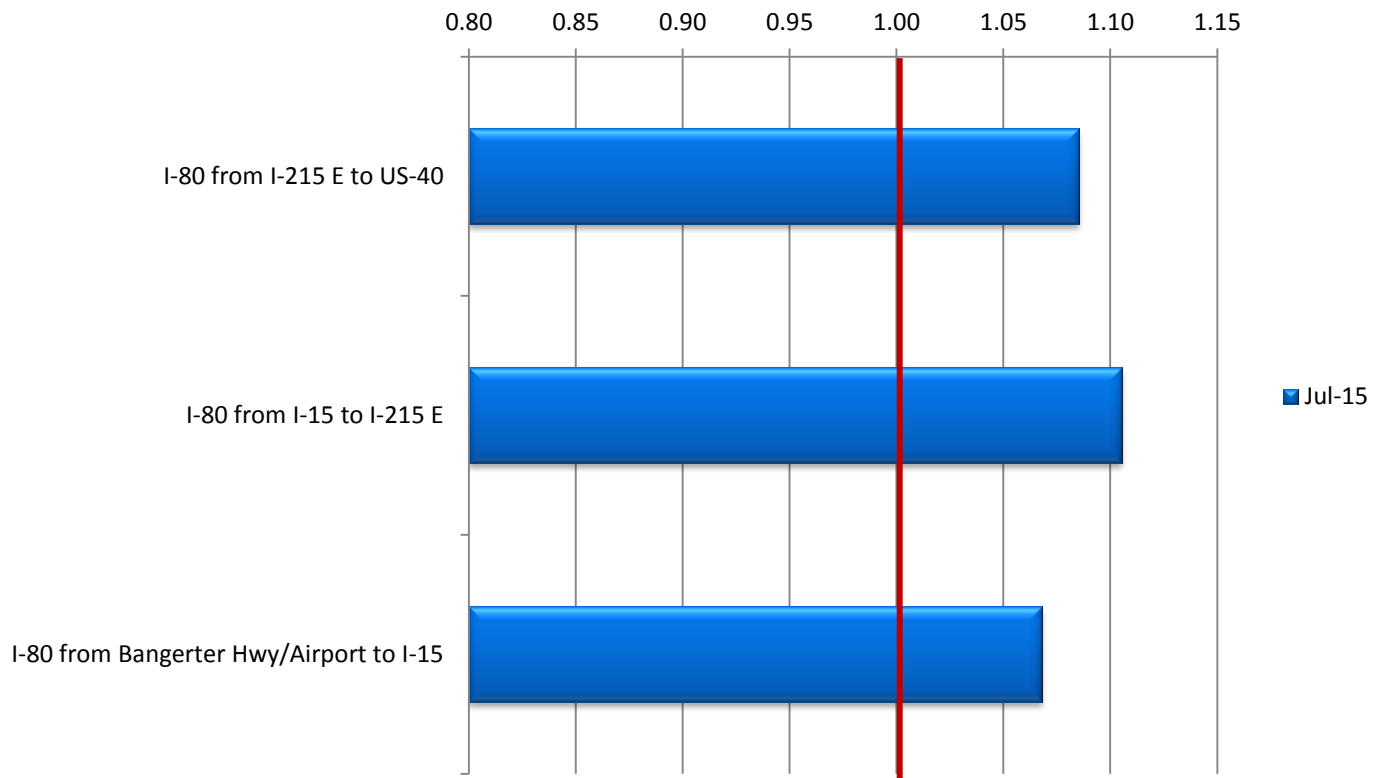
### AM Peak Travel Time Index for I-15 FY 16



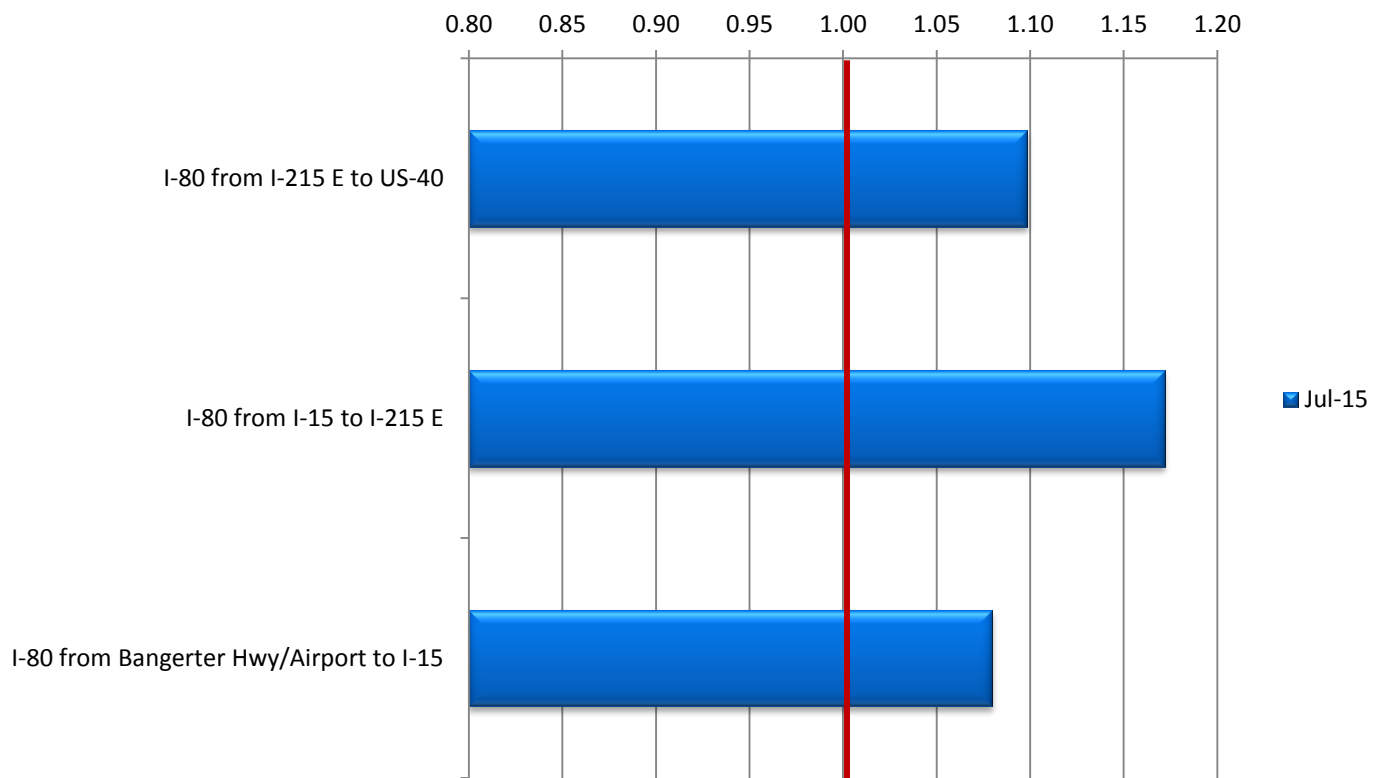
### PM Peak Travel Time Index for I-15 FY 16



**AM Peak Travel Time Index for I-80 FY 16**

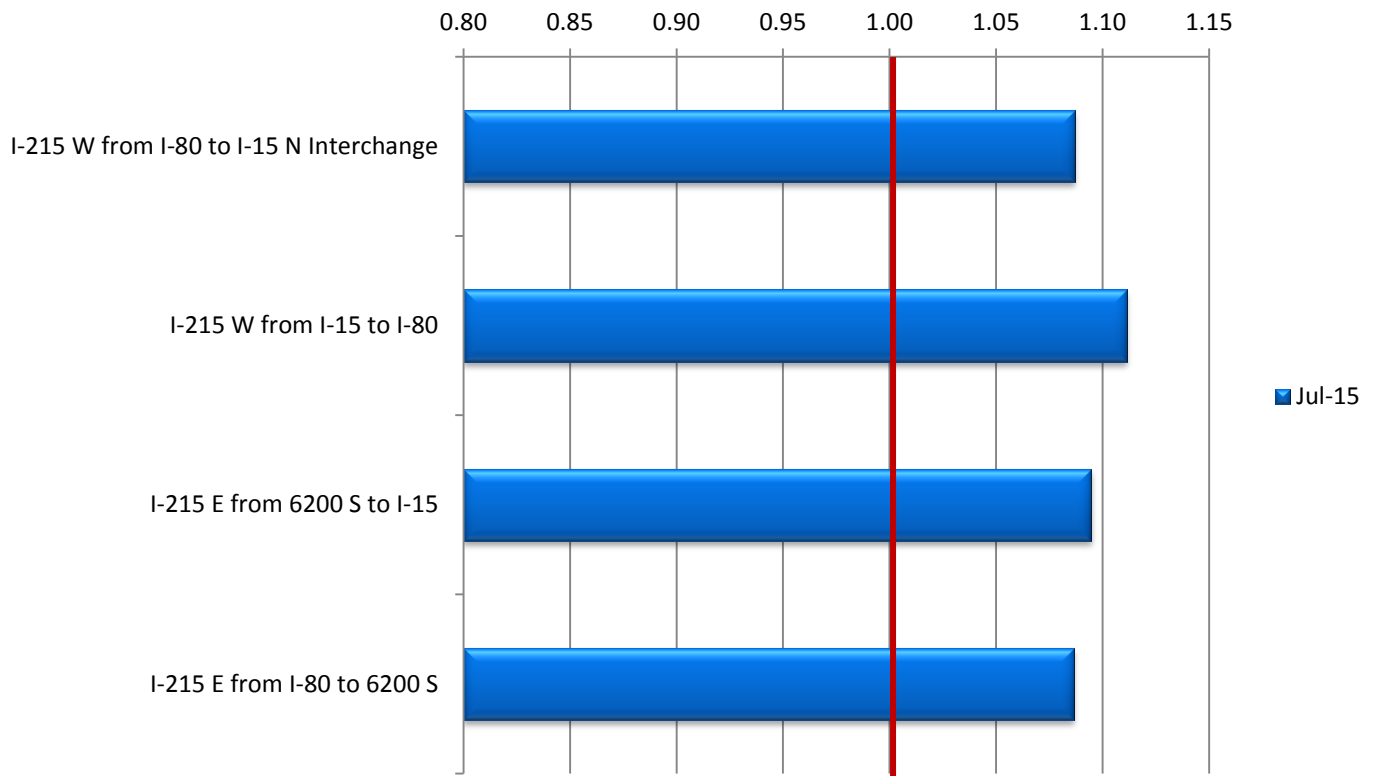


**PM Peak Travel Time Index for I-80 FY 16**

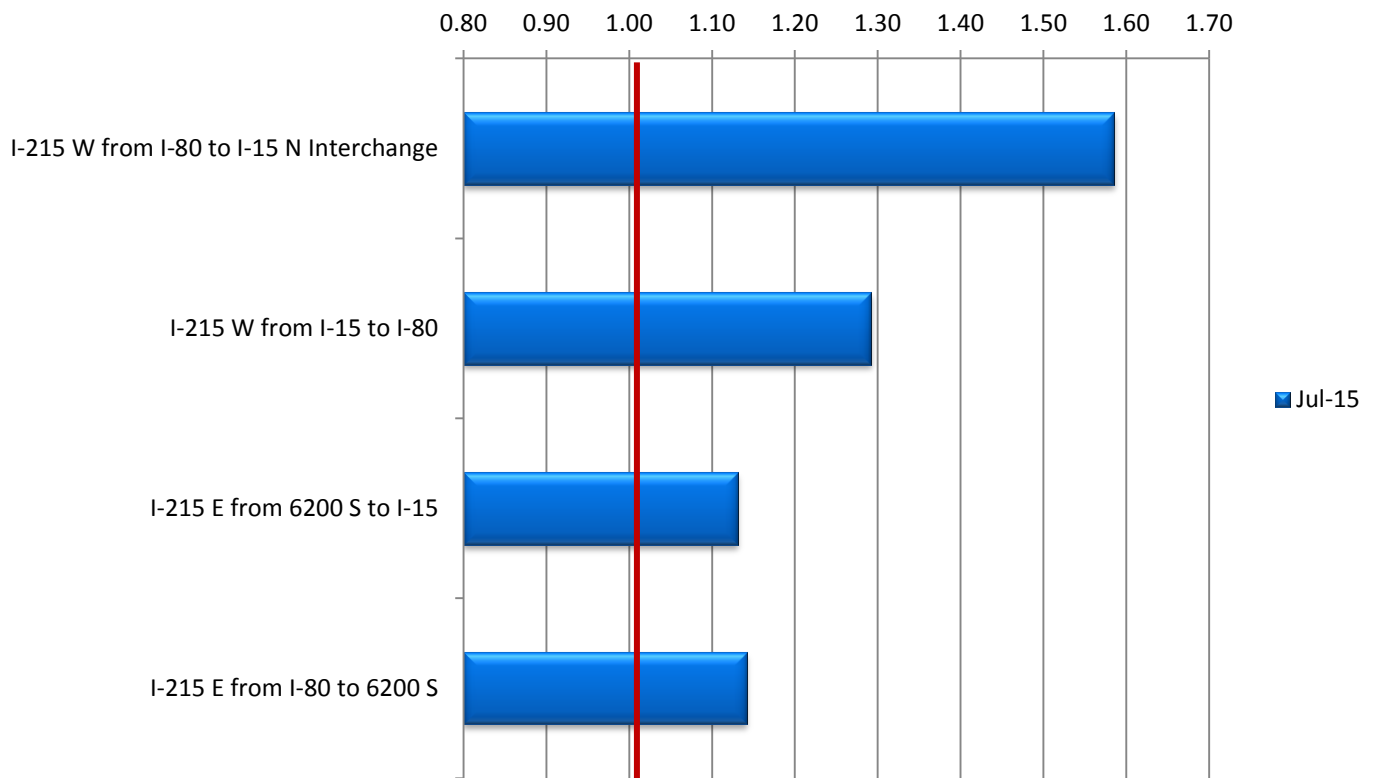




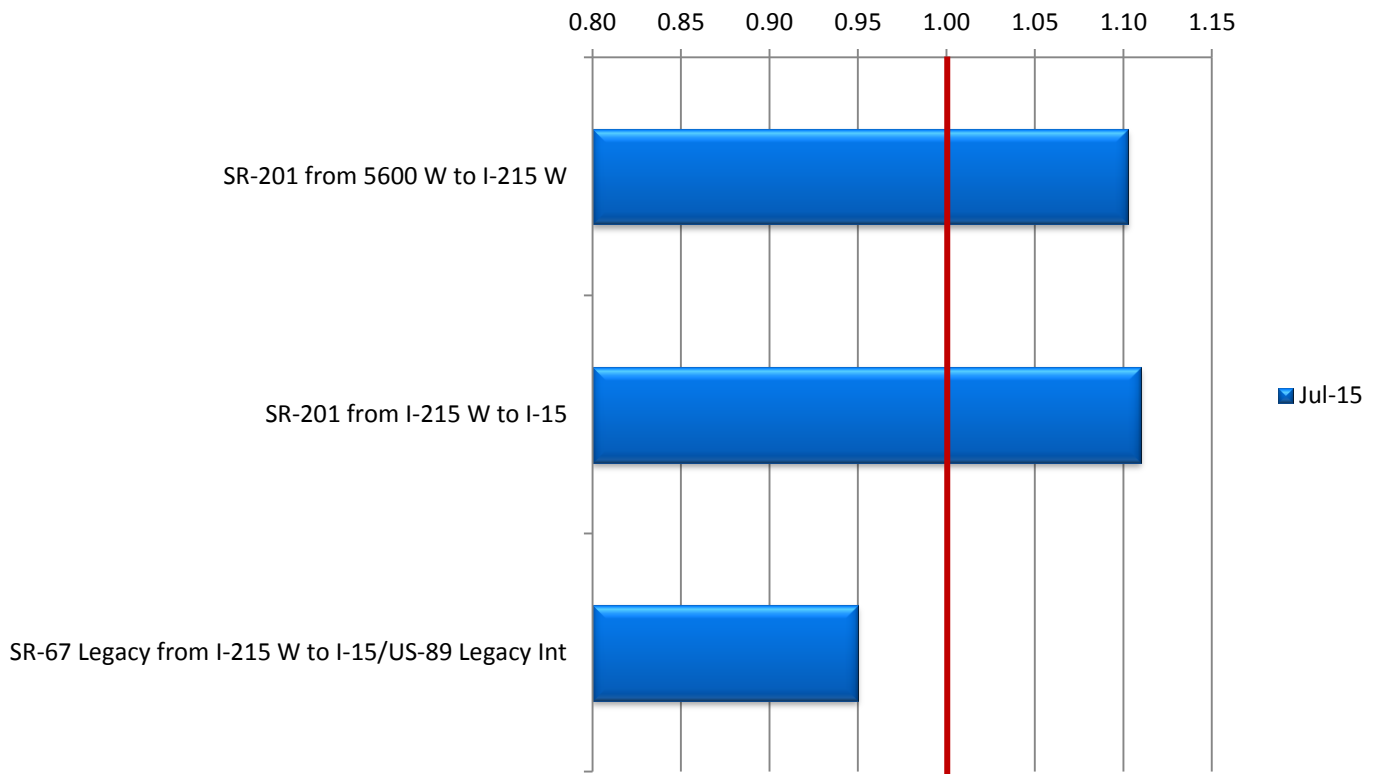
### AM Peak Travel Time Index for I-215 FY 16



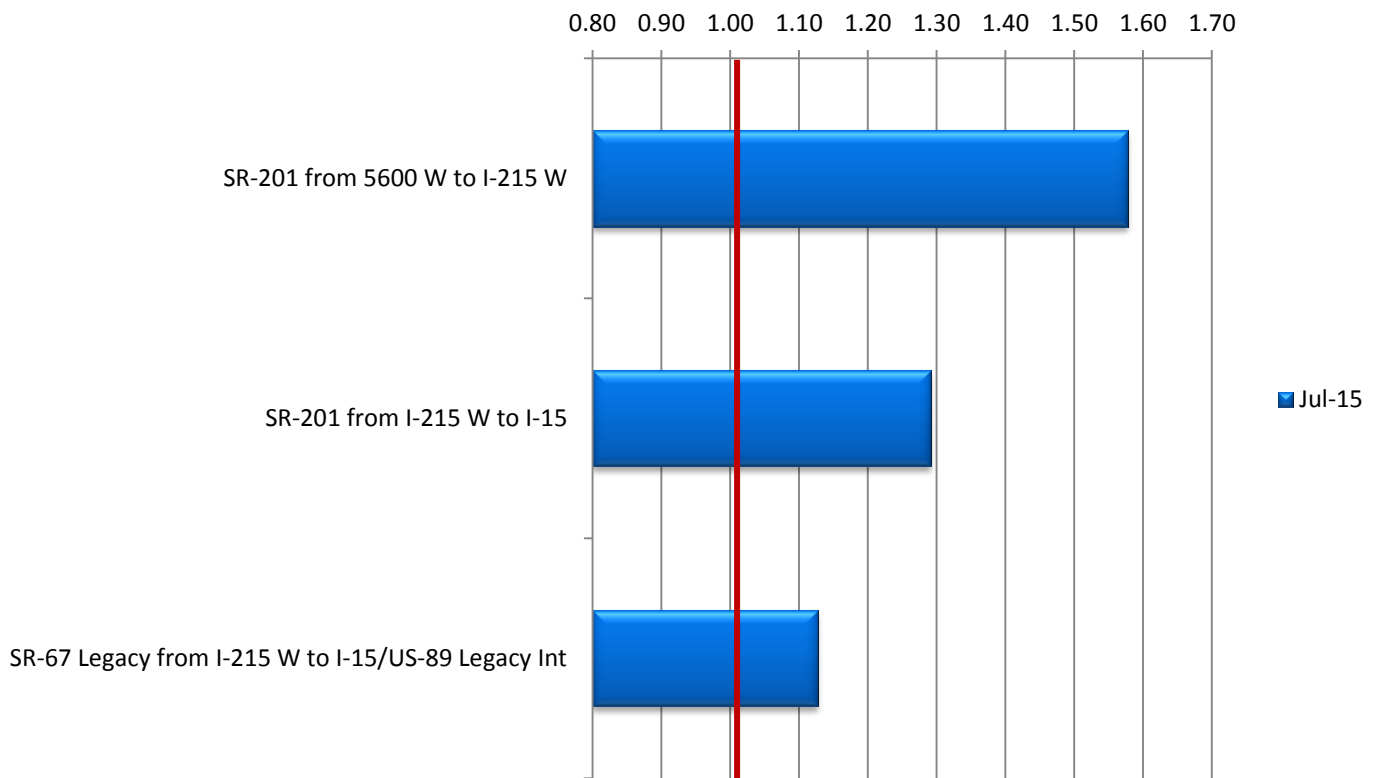
### PM Peak Travel Time Index for I-215 FY 16



**AM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 16**

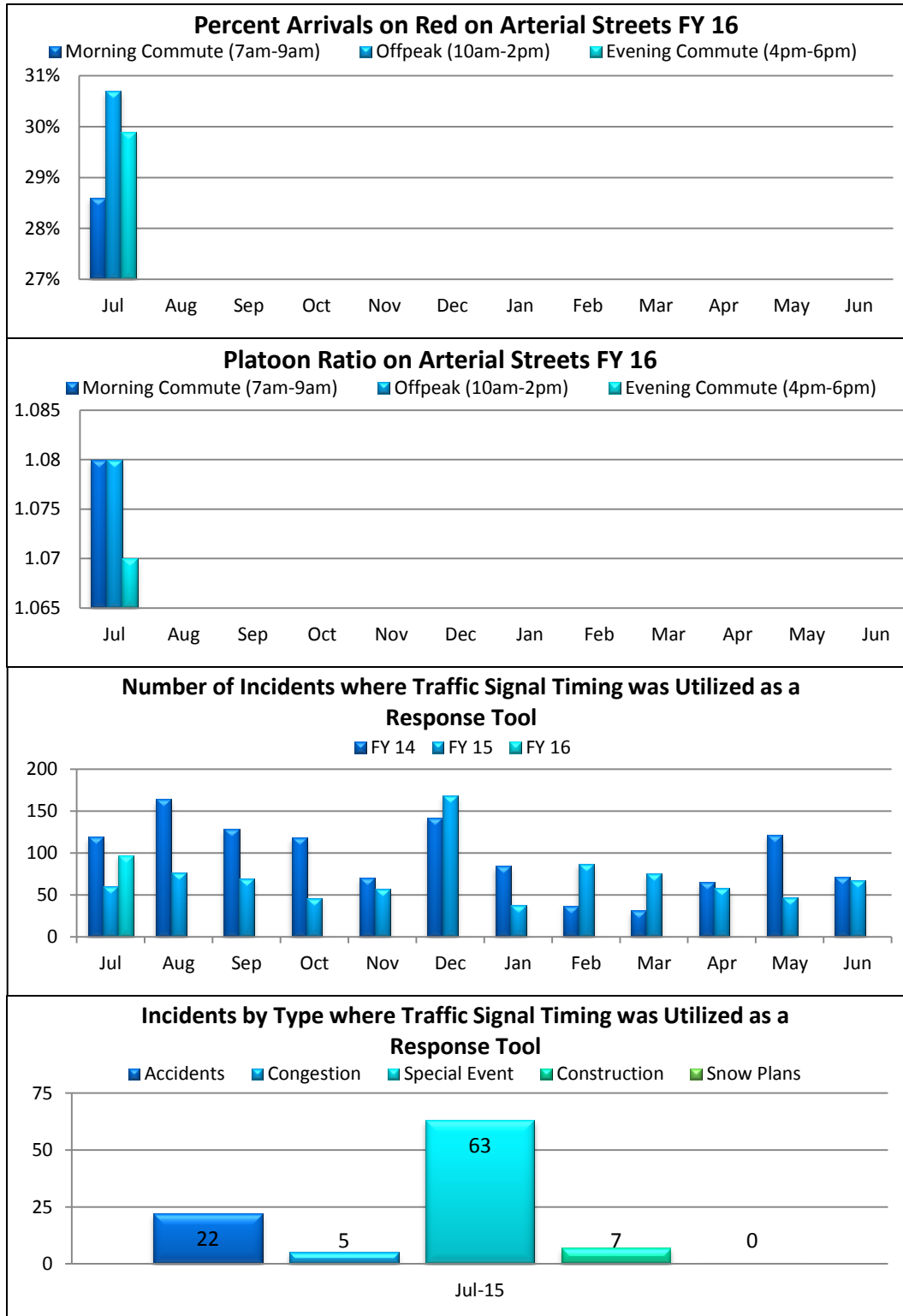


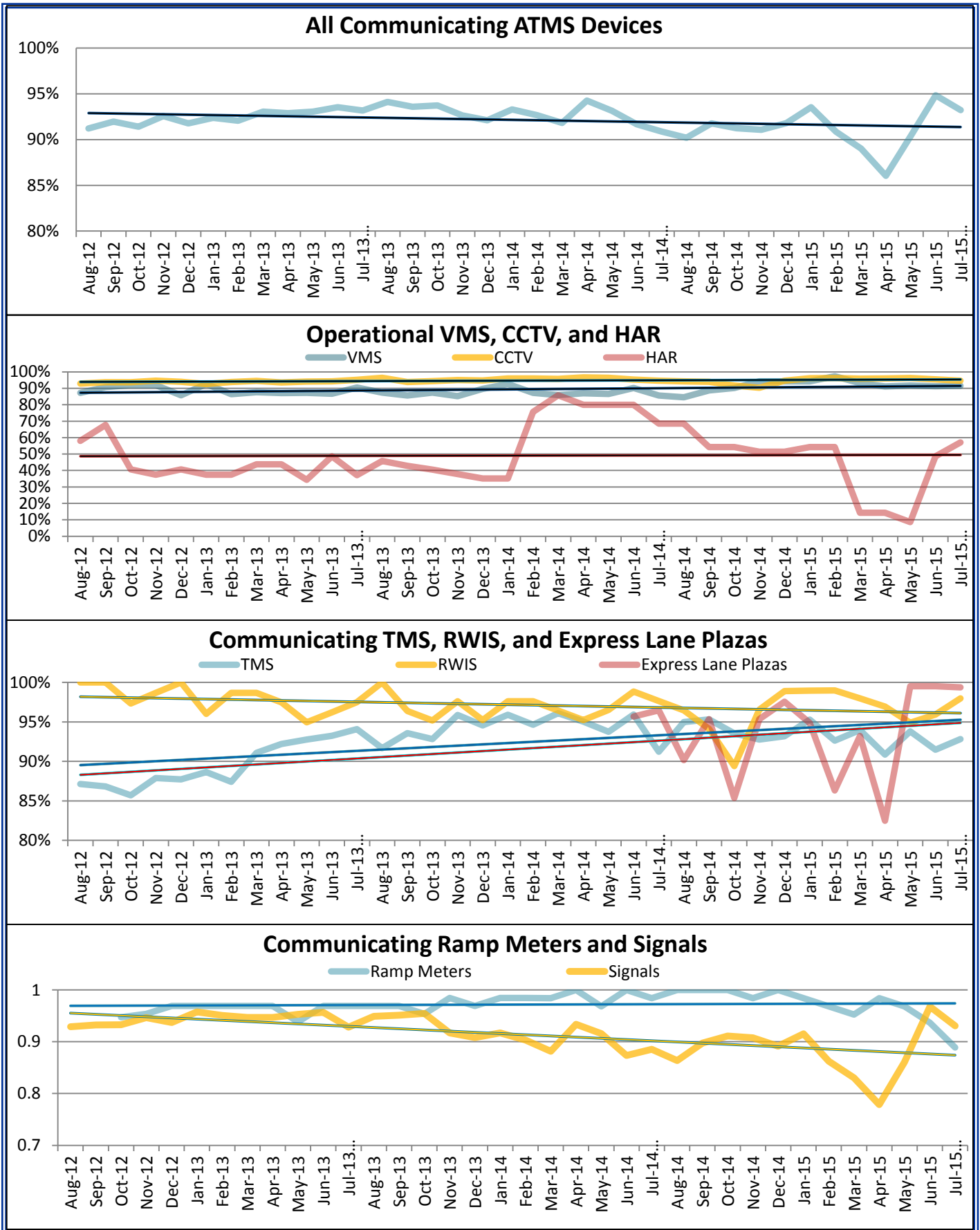
**PM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 16**



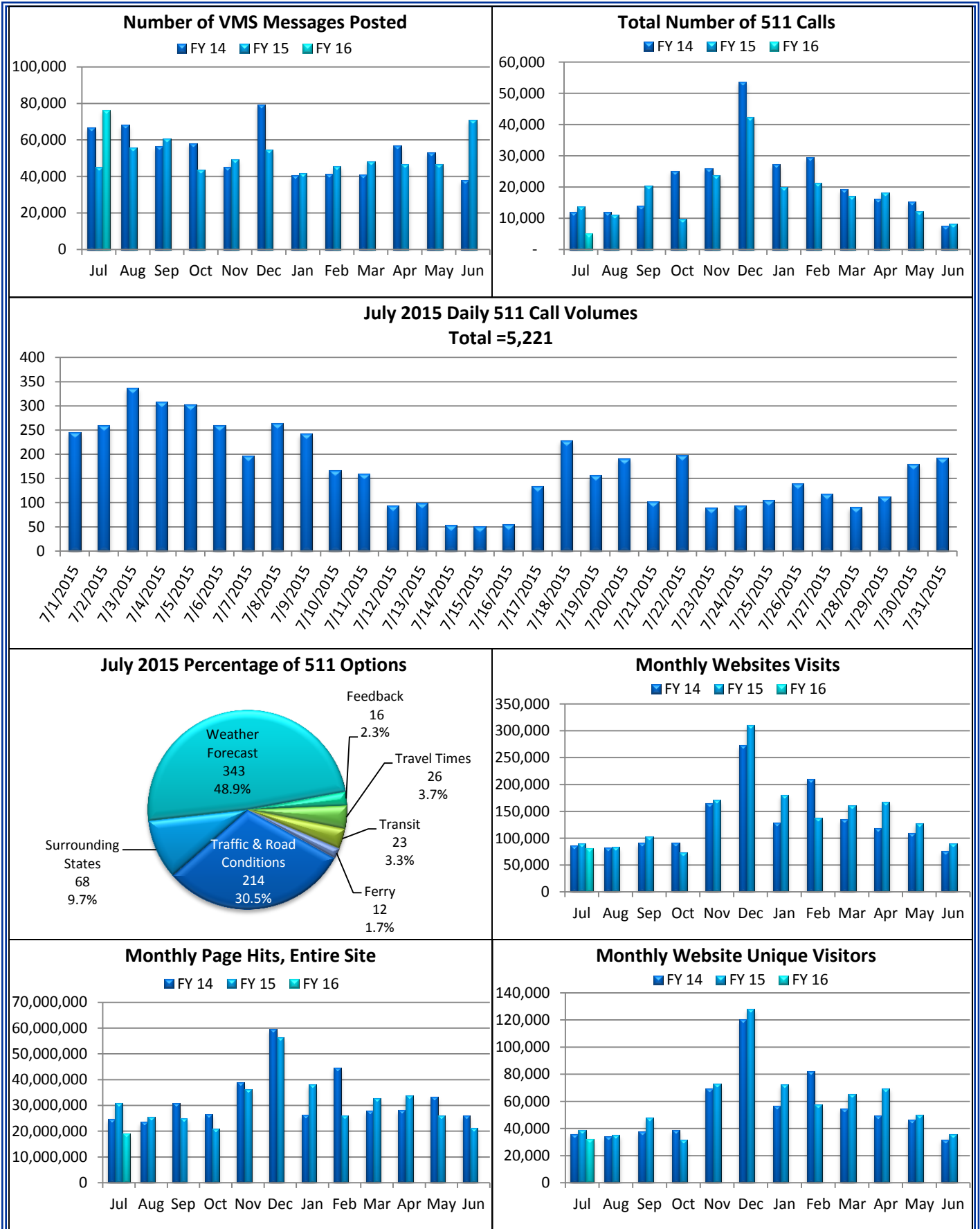
## Arterial Traffic Level of Service

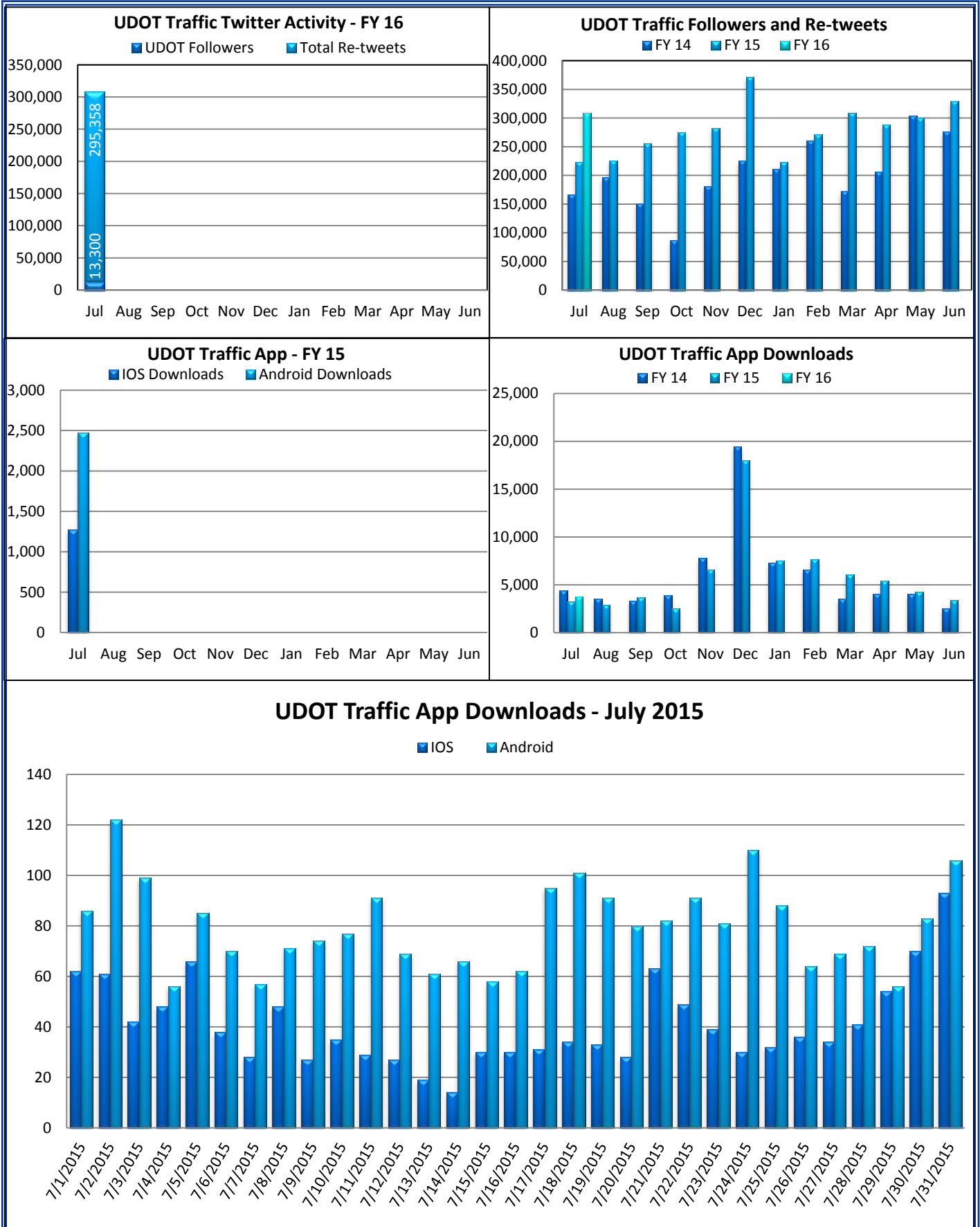
The percent arrival on red along the arterial statistics are generated automatically through the automated traffic signal performance measures, which show real-time and historical functionality at signalized intersections. The system automatically time-stamps when each vehicle arrives at the intersection and then compares the detection time-stamp if the phase was green or red. The percent arrival on red data is averaged over the 24 hours of the day and days in the month. . The lower charts shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.



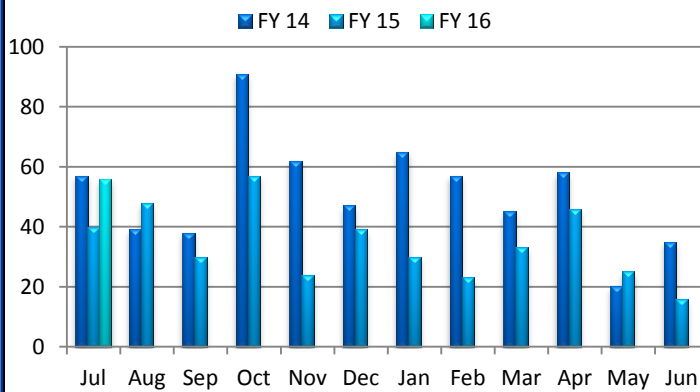


## Traveler Information

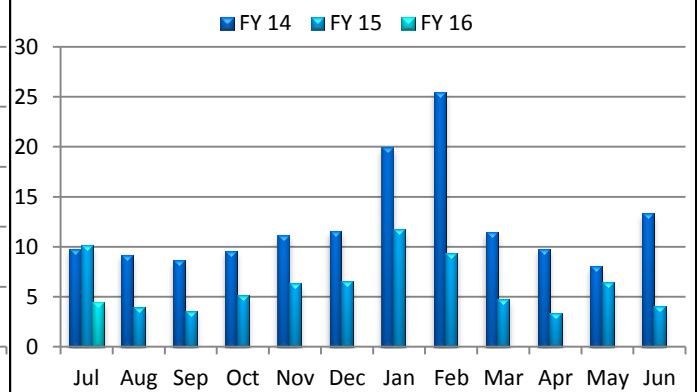




## Number of "Ask UDOT Traffic" Questions

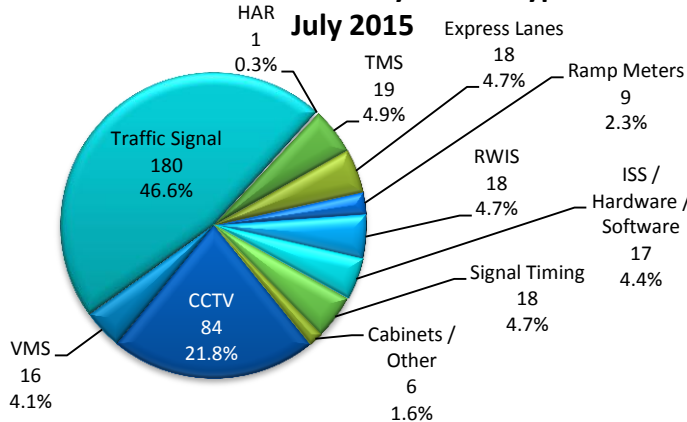


## Overall Average Work Order Turnaround Days

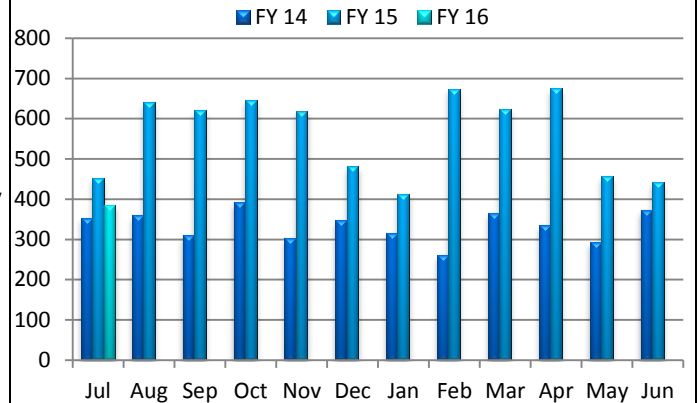


## New Work Orders by Device Type

July 2015

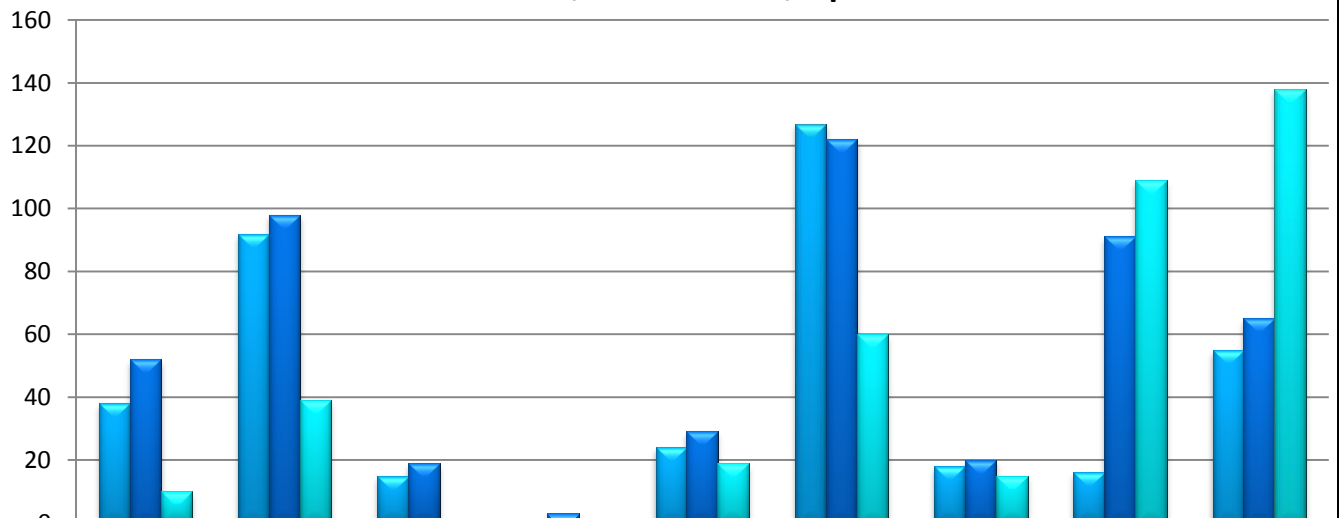


## Number of New Work Orders



## Work Order Statistics by Group - July 2015

Total New = 386, Closed = 499, Open = 391



	R1 Signal Maintenance	R2 Signal Maintenance	R3 Signal Maintenance	R4 Signal Maintenance	Signal Timing	ATMS	Express Lanes	ISS	Other / Engineering / Contractor
New	38	92	15	1	24	127	18	16	55
Closed	52	98	19	3	29	122	20	91	65
Open	10	39	0	1	19	60	15	109	138

### CONTROL ROOM

The Control Room operators addressed 804 incidents and 1125 phone calls, in addition to their daily tasks. The Control Room also worked with Traffic and Safety, composing “Message Monday” and “Fatality Friday” VMS messaging, as well as air quality messaging. The TOCL was activated five times during the month. The Control Room supported the I-15 Point, South Davis and I-80 Wanship construction projects. The Maverick Center Rush Concert, Thanksgiving Point Golf Tournament, and the 4<sup>th</sup> and Pioneer Day celebrations throughout the Wasatch Front were also supported.

### TRAVELER INFORMATION

Traveler Information assisted with 4th of July and Pioneer Day traffic management and social media, managed pre-event planning for a large golf event at Thanksgiving Point, and later assisted UDOT Mobility Manager with the event. UDOT was represented at the Maverick Center field command post for an event, coordinating with WVC PD. A TOC tour was hosted for a University of Utah engineering summer camp. Information was given to the Express Lanes Engineer on changes to the program and public outreach program.





### WEATHER INFORMATION

The weather group had 135 overall UDOT weather interactions, 69 outgoing weather alerts and three NWS collaborations.

#### *Climatology*

Utah was about average for precipitation statewide, but Salt Lake City was about double its average thanks to a couple of strong storms that passed by. However, the entire state had average or below-average temperatures for the month. In fact, the average temperature for Salt Lake City was 0.1 degrees cooler than June and was the first below average month since August 2014 and the coolest July since 1997.

For the current monthly climate outlook, please visit:

<http://www.nw-weather.net.com/UDOTMonthlyOutlook.pdf>.

For the current seasonal outlook, please visit:

<http://www.nw-weather.net.com/UDOTSeasonalOutlook.pdf>

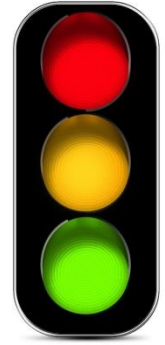
#### *Weather Operations*

There were two tours of the TOC Weather Operations room in July: one by members of UDOT's GIS group, the second by summer engineering students at the University of Utah. The TOC also hosted participants of the national Pathfinder Project, a project with the goal of enhancing weather operations in DOTs around the country. Member participants include California, Nevada, Utah, and Wyoming DOTs, as well as members of the private sector and the National Weather Service offices in those states.

RWIS upgrade and enhancement work continued in July in support of the Winter Road Weather Index and Snow and Ice Performance Measure with work continuing for the rest of the summer.



### TRAFFIC SIGNAL OPERATIONS



#### **Region 1**

- ❖ Signal timing was optimized for several construction projects.

#### **Region 2**

- ❖ Configured Peer to Peer signal operations near Mountain View Corridor and 9000 South.
- ❖ Activated SPUI signalization at the new Bangerter Highway at the Redwood Road interchange.
- ❖ Rebuilt the 2300 East 3300 South signal to include flashing yellow arrow phasing.
- ❖ Installed new detection on several intersection along 700 East and also 5300 South as part of those paving projects.
- ❖ Continued work on rebuilding several intersection signals throughout Salt Lake County.
- ❖ The Flex Lane gantry upgrade effort passed the 50% complete milestone.

#### **Region 3**

- ❖ Connected all the remaining Payson traffic signals and two HAWK signals in Orem to the TOC communication system.
- ❖ Replaced the signal cabinet at 100 East Main Street in American Fork with a new cabinet equipped with a generator transfer switch.
- ❖ Installed reflective back plate tape on several signal heads throughout the region.
- ❖ Ran signal timing plans supporting the Provo Freedom Festival and Stadium of Fire.
- ❖ Assisted with traffic control for the multi-day Thanksgiving Point golf event.

#### **Region 4**

Replaced several LED street lights that were damaged during a lightning storm.

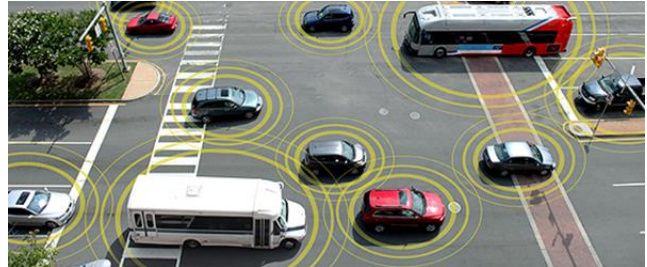
Installed battery backup systems at two intersections.

Installed reflective back plate tape at several intersections.

Assisted Cedar City in replacing some signal heads that were knocked off the mast arm by a dump truck.

### TRAFFIC OPERATIONS AND REPORTING

- ❖ Participated in the Lehi Technology Corridor Study.
- ❖ 5400 South Redwood Road TIS.
- ❖ Holiday travel media stories.
- ❖ Congestion Reporting;.
- ❖ I-215 west side pavement rehab project support.
- ❖ Managed Motorways Study.
- ❖ Moab Main Street signal study.
- ❖ 1000 No Main Street Signal MOT, Spanish Fork.
- ❖ Redwood Road, 2100 S to California Avenue project.
- ❖ Legislative Interim Committee Report; I-80/State EIS.
- ❖ AASHTO Leadership Conference.
- ❖ 7000 South Corridor Study, West Jordan.
- ❖ Region 3 and Region 4 coordination with TMD.
- ❖ Pro golf event at Thanksgiving Point.
- ❖ 4700 South alternatives modeling, Taylorsville.
- ❖ User Cost development.
- ❖ SW County Transit study review.
- ❖ Provo/Orem BRT.
- ❖ 2015-2016 performance plans.
- ❖ I-215/SR-201 modeling.



### ITS ASSET MANAGEMENT

- ❖ Integrated 17 surface street CCTV, six chain-up VMS, a portable VMS, and three new signals. The team also continued checking CCTV images and preparing work orders on cameras without images.

### ATMS MAINTENANCE

#### **Field Team**

Performed LFOTs (local field operation test) at Little Cottonwood Canyon, SR-210 at Wasatch Boulevard, Snowbird entries 1- 2, 4 and Gold miner's Daughter, Forest Service garage, Alta avalanche sign, Alta Canyon Resort, 1700 South at 700 East and 1700 South at State Street. Designed and rewired CCTV surge suppression on all 11 new installations in Big and Little Cottonwood Canyons. A temporary CCTV was installed to support the Thanksgiving Point Golf event. In Region 4, replaced the solar panels and battery at the Monticello RWIS. Upgraded network security with the assistance of Diane Silcox on the Ethernet radios at 6200 South and 5600 West.

The Field Team completed 96 system generated work orders.

### ATMS MAINTENANCE



#### **Lab Team**

- ❖ Tested and repaired 12 ATMS devices.
- ❖ Reset seven switches and port servers.
- ❖ Tested and repaired five traffic signal cabinets and delivered one cabinet to Hunt Electric.
- ❖ Deployed two portable VMS to support the Provo Freedom Festival.
- ❖ Deployed five portable VMS to support the Thanksgiving Point golf event.
- ❖ Performed PM inspections on all six portable HARs.
- ❖ Located TMS stations on SR-92 that were installed but not integrated during construction.
- ❖ Worked with the manufacturer to download data and downgrade NID firmware that is not functioning as designed.
- ❖ The team off loaded and tested a Type 1 VMS and driver feedback sign.
- ❖ Offloaded several shipments for various groups within Traffic Management Division.
- ❖ Reviewed construction documents for two projects with VMS signs, one for Heber the other for 11400 South.
- ❖ Attended meetings for Pine Creek Solar and 11400 South VMS
- ❖ Inspected three ATMS sites for K.V. Electric.

The Lab closed 16 system generated work orders.

#### **Express Lane Team**

- ❖ Rebooted five VTMS signs.
- ❖ Rebooted four clusters, repaired two clusters, and completed the weekly system drive-through inspection.
- ❖ Reset one laser and reader.
- ❖ Performed preventative maintenance on 16 cabinets.
- ❖ Attended inspections meetings with the I-15 Davis County project.

The express lanes teams closed 20 system generated work orders.

### REGION ONE

- ❖ **Statewide Signal Interconnect:** This has been changed to a larger scope and will be called Statewide Signal Interconnect. PineTop Engineering has been working on the design for this to advertise.
- ❖ **Antelope and US-89:** This project is under construction nearly complete.
- ❖ **200 N. 300 W. Kaysville:** This is under construction.
- ❖ **I-15; SR-30 to the Idaho State line:** This project has been designed by PineTop Engineering and is ready to advertise. This project needs major funding for ATMS. This project may be part of a partnership with a telecom.
- ❖ **Layton Interchange:** This project is in design.
- ❖ **Logan HUB relocation:** This project is complete.
- ❖ **US-89; Antelope Drive Extension:** This project is under construction.
- ❖ **Logan CCTV's:** This project is under construction.
- ❖ **SR-126 and 1300 N.:** This project is under construction.

### REGION TWO

- ❖ **SR-36 reconstruction through Tooele City:** New micro duct conduit and micro fiber is being installed through the Tooele City Main Street with UDOT's road reconstruction project. This is the first region two project using the micro duct conduit. This installation is much more compact and allows for easier cable upgrade with more inner-ducts.
- ❖ **Bangerter & Redwood Radd Interchange:** The Design/Build Team did good at keeping communication to the signal and CCTV during construction. The project is now complete and the new CCTV's are set to come online in the next month.
- ❖ **I-15 Point Project:** Design work is steadily progressing for the final segment of the project. ATMS issues have been easy to address and our ATMS staff has worked closely with the Design/Build Team to address various design challenges to garner the most optimal outcome. The need for safe access for maintenance crews servicing the devices has been addressed really well by the Design/Build team. Lessons learned on previous projects has proven beneficial to improve the product delivered and make adequate and safe access for our maintenance crew to service the equipment on the roadside.



### REGION THREE

- ❖ **SR-92 CCTV/Hybrid VMS (12641):** Received all of the state furnished equipment. Contractor verified sign posts will still work after all of the changes that have been made since original design. Static signs have been ordered.
- ❖ **Saratoga Springs; Pony Express SR-68 to 800 West (8581):** Project ongoing. Anticipate CCTV installation and signal integration in late September.
- ❖ **Region 3 traffic signal connections (12774):** Began dialogue with Spanish Fork City to connect three signals into the Utah Traffic network via the city owned cable network. Cooperative agreement needed.
- ❖ **US-40 CCTV/Signal connections (12805):** STRATA signal connection work ongoing in Uintah Basin.
- ❖ **Vernal; US-40 @ 2100 West Signal/CCTV (13018):** On hold due to ROW issues.
- ❖ **Roosevelt; US-40 @ 2000 West Signal/CCTV (12980):** On hold due to ROW issues.
- ❖ **Provo Canyon RWIS/VMS (11410):** Finalized design.
- ❖ **US-189; State Park to Rock Cut passing Lanes (11415):** Generated ATMS state furnished items list.
- ❖ **Fiber connection to three Maintenance Sheds (13681) :** Installed fiber switch and monitors, fully integrated Heber shed into Utah Traffic Network. Waiting on contractor to provide estimate to connect Lehi and Saratoga Springs.
- ❖ **SR -92; Utility relocate for BOR easement (13707):** Held Plan-in-Hand.
- ❖ **Spanish Fork; SR-156; 1000 North to I-15 (13687):** Generated ATMS state furnished items form.
- ❖ **Roosevelt; US-40 @ Union St. (HAWK) (13808):** Reviewed design plan set.
- ❖ **Roosevelt; US-40 @ 1500 East Signal/CCTV (13853):** Reviewed design plan set.

### REGION FOUR

- ❖ **St. George:** This project is complete, except for some city and UDOT fiber coordination.
- ❖ **Pine Creek Truck Climbing Lane:** This project is under construction. Issues with solar sites are being mitigated.
- ❖ **Fiber upgrade for US-6, Helper and Price Signal Integration:** Telecom work has been completed. UDOT is ready to complete the final contractor package for a procurement contract.
- ❖ **Beaver Truck Climbing Lane:** Project is under construction.
- ❖ **I-15; North Beaver to Manderfield:** This project is complete. Solar sites and CCTV locations to be re-located are being mitigated.
- ❖ **Cedar City Fiber:** Project is in design. We are at PS&E stage.
- ❖ **Beaver Shed and Fiber HUB:** This project is in design. We are at PS&E stage.



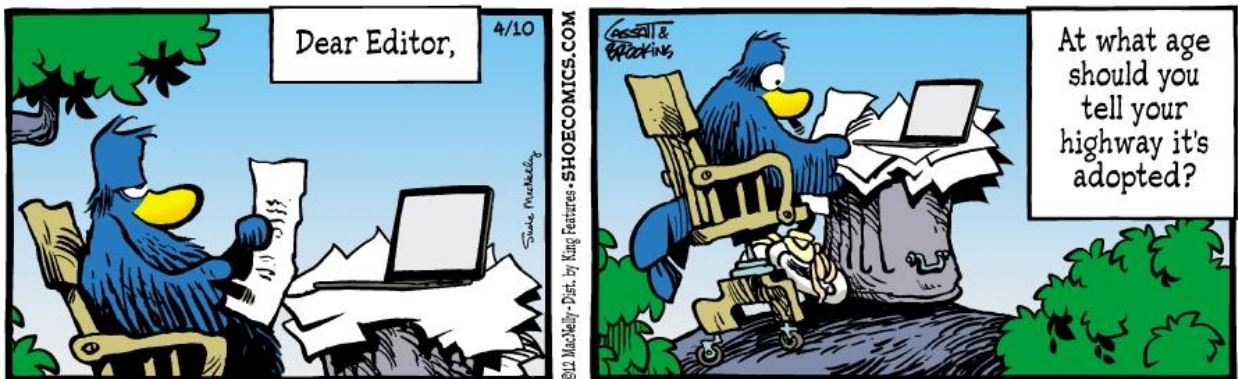
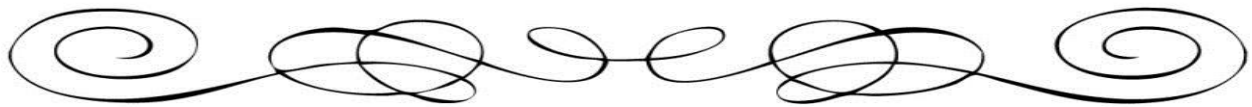


## TMD Operation Highlights



Healthy Utah came by to present Chris Siavrakas with the first ever "Healthy Utah Heroes" award for his encouragement of all of us to be healthy and exercise. He received a t-shirt, books and other goodies.

Thanks Chris for keeping us on a healthy path.



### Acronyms

<b>CCTV</b>	Closed Circuit Television	<b>DPS</b>	Department of Public Safety
<b>EIS</b>	Emergency Information System	<b>HAR</b>	Highway Advisory Radio
<b>I2TMS</b>	Integrated Interagency Traffic Management System		
<b>ITS</b>	Intelligent Transportation System	<b>LFOT</b>	Local Field Operations Test
<b>MIC</b>	Manager in Charge	<b>MOT</b>	Maintenance of Traffic
<b>RWIS</b>	Road-Weather Information System	<b>TAC</b>	Technical Advisory Committee
<b>TMD</b>	Traffic Management Division	<b>TMS</b>	Traffic Monitoring Station
<b>TOC</b>	Traffic Operations Center	<b>VMS</b>	Variable Message Sign

